

Arizona's Instrument to Measure Standards (AIMS)

Sample Test High School



Arizona Department of Education
Tom Horne, Superintendent of Public Instruction

Assessment Section
602-542-5031

Revised September, 2005

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Acknowledgements

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Index

<u>Section</u>	<u>Page</u>
Reading Test	1
Reading Test Answer Key	21
Writing Test	22
Mathematics Test	29
Mathematics Test Answer Key	49

READING

DIRECTIONS: Read this letter and then answer questions 1 through 5.

12831 N. 6th Place
Phoenix, AZ 85020
January 28, 2004

Steve Whitman
President
Performance Builders, Inc.
9121 N. 43rd Avenue
Phoenix, AZ 85051-5700

Dear Mr. Whitman:

I am writing to thank you for allowing Maria and me to use your office as a workspace as well as to compliment your wonderful organizational skills. Maria and I, as you know, have been in your office multiple times in the past few days writing letters to raise money for our community service trip to Pucallpa, Peru, where we will work with impoverished children. Not only did you allow us to use your office space, but also you helped us greatly by providing us with a list of possible contributors. Without your assistance, I don't think we would have been able to raise enough money for such a trip.

We recognize that accommodating our request for office space required flexibility on your part, but because of your exemplary organizational skills and assistance we were able to accomplish our objectives without disrupting your daily routine. Every time we needed office supplies, such as pens, highlighters, envelopes, or paper, we were able to find them with ease. Your donations of the materials and postage needed to send over one hundred letters are most appreciated. We could not have done this without you.

You have helped us greatly this past week. Your generosity will not only provide us with the opportunity to make this trip possible, but will also be a great benefit both to the children in Pucallpa and us. Again, we thank you for your help.

Sincerely,

Amy Fynmore
Amy Fynmore

AIMS Sample Test - Reading
High School

- 1 In paragraph 1 what does the word impoverished mean?
- A illiterate
 - B sick
 - C poor
 - D disabled
- 2 Based on the letter, which of the following statements is an unsupported inference?
- A The writer will be traveling with someone else.
 - B The writer raised enough money to go to Peru.
 - C The writer sent many letters asking for donations.
 - D The writer is going to Peru for two weeks.
- 3 What is the position/title of the person to whom this letter is written?
- A president
 - B secretary
 - C student
 - D manager

AIMS Sample Test - Reading
High School

- 4** Based on the text, what logical inference can be made?
- A** Amy and Maria hope to get jobs with the company.
 - B** Amy and Maria will receive support from the company in the future.
 - C** Amy and Maria will be paid for their work in Peru.
 - D** Amy and Maria hope to receive money from other sources.
- 5** What is the purpose of this letter?
- A** to request information
 - B** to express appreciation
 - C** to offer assistance
 - D** to clarify objectives

DIRECTIONS: Read this passage and then answer questions 6 through 9.

The Prom Date

(The date that's not really a *date*.)

by Emily Jenkins

"Well, he doesn't have a date, and I really want you to go. So, I thought you two could just go together. What do you think?"

I still remember those exact words as I think back on the events of my first prom. My reaction to my best friend's question was probably what anyone would say when faced with the prospects of a blind date. What did I think? Well, I felt like the last pair of old socks stuck in the bottom drawer that will have to do because all of the good ones are in the laundry basket. Of course, I would never dare reveal that thought to her since she is my best friend and she genuinely wanted me to go to one of the major milestones of high school. I gave my friend permission to disclose my phone number to him so that he could call me to "make the necessary arrangements."

Soon, this obscure person who was to accompany me on this magical event called me. Our conversation was less than encouraging.

"What color is your dress?"

"Blue. Why?"

"So I can match the vest of my tux with your dress."

"Oh. So, are you going to pick me up or meet me somewhere?"

"I can pick you up."

"Okay, do you want my address?"

"Well, I can get all the stuff from Tina. See you at seven?"

"Okay. See you then."

"Bye."

As shocked as I was about his need to color coordinate, I was more shocked at the civility of the whole conversation. It was as if we were setting up some kind of business meeting. I understood his mindset; the situation was as awkward and uncomfortable for him as it was for me.

The fateful day arrived! Hours before I was supposed to be whisked away in my chariot with my knight in shining armor, he called. Evidently he was being delayed by a previous engagement, and I would miss ALL of dinner if he picked me up himself. Being the gentleman that he is, however, he called my friend and arranged for her to swing by and drive me to the restaurant. My reputation for getting cranky when hungry had probably preceded me.

AIMS Sample Test - Reading
High School

Surprisingly, dinner was quite good. The service was efficient, the food was excellent, and I had a great time with my friend and her date. I was glad I was able to go. Just as the dinner bill was being paid, my date appeared, offered me his arm, and walked me to his car. The evening made a very pleasant turn when I had my first glimpse of his futuristic-looking car. The sleek, curved lines of the body started me wondering if he would begin the countdown for liftoff at any moment. The dash resembled a computer with a touch-screen monitor complete with a locator system. It had to be the coolest car in which I have ever ridden. I spent the entire trip playing with the interactive screen and asking all sorts of questions, such as, “Does it yell at you when you make a wrong turn?”

We almost made it to the dance without incident. It took several minutes for my heart to stop racing after we were nearly side-swiped by a car in the next lane. Apparently, this futuristic car has a severe blind-spot problem.

Finally we made our way into the building, and as we approached the check-in table, the adults greeted my “date,” then stared at me like I was some kind of exotic animal. The woman with her official list greeted me with the right first name, but a completely wrong last name. After an embarrassing session of thoroughly comparing my face to the tiny photo on my school ID, my date finally agreed that,

yes, that was my name. My puzzlement grew as the talkative lady prattled on about how her seven-year-old daughter has the same name and how she was surprised to see her daughter’s name on the list. I smiled sheepishly while my date dragged me past the table. Once we were in the main room, he confessed that he had fabricated a name rather than admit he didn’t know his date.

As midnight approached, discussion of the “after-party” began. After some deliberation, we decided that ice cream and videos at my friend’s house would be fun. My date and I were delegated the task of buying the ice cream, while everyone else was delegated the task of driving there. Two stores later, we had two flavors of ice cream and a couple of great date movies. We were ready to rock! (Oh, baby, do we know how to party).

Before the night ended, I was treated to more joy-ride in the future-car. Things were a bit awkward once we arrived at my house, but then I remembered this was not really a date. I thanked him for the nice night, got out of the car, and hurried to my front door. It might not have been the fairytale I had hoped for and I will definitely think twice before letting my best friend talk me into another blind date, but a night that included good food, a cool car, and ice cream can’t be all bad.

AIMS Sample Test - Reading
High School

- 6 As used in this passage, what is the meaning of fabricated?
- A invented
 - B memorized
 - C assumed
 - D suggested
- 7 Which of the following events did the narrator most enjoy?
- A watching video
 - B talking to her date
 - C buying the ice cream
 - D eating in the restaurant
- 8 Which of the following statements supports that the narrator is not looking forward to the date?
- A “I felt like the last pair of old socks.”
 - B “I was shocked at the civility of the whole conversation.”
 - C “The evening made a very pleasant turn.”
 - D “My reputation for getting cranky when hungry had preceded me.”

AIMS Sample Test - Reading
High School

- 9 Which of the following reflects a sarcastic tone?
- A “I was more shocked at the civility of the whole conversation.”
 - B “The situation was as awkward and uncomfortable for him as it was for me.”
 - C “My puzzlement grew as the talkative lady prattled on...”
 - D “Oh, baby, do we know how to party.”

DIRECTIONS: Read this passage and then answer questions 10 through 13.

December 6, 2004

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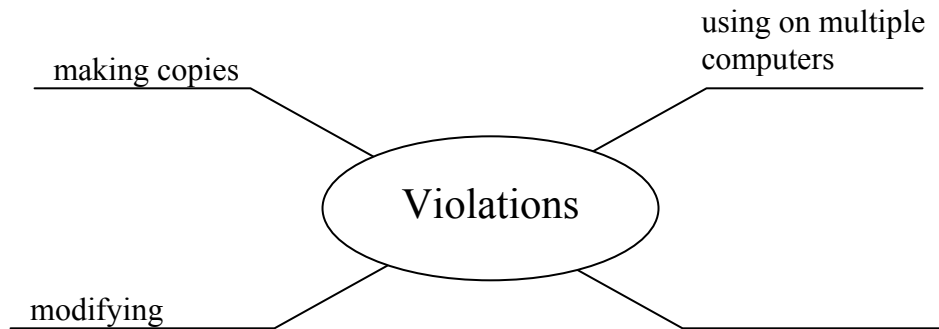
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- 10 Look at the web below.



Which of the following should **not** be used to complete the web?

- A returning the software
 - B adapting the software
 - C selling to others
 - D reducing to readable form
- 11 Which of the following is **not** a reason the License Agreement uses the pronoun “you” throughout?
- A to indicate that the user accepts all conditions of the agreement
 - B to show that Great Games personally knows each user
 - C to allow the agreement to be used for many different users
 - D to define the rights of the user and Great Games

AIMS Sample Test - Reading
High School

- 12 Based on the format, what is the **most** important priority of the License Agreement?
- A to provide technical help to the user
 - B to inform of Great Games' warranty
 - C to warn the user of possible defects
 - D to protect Great Games software
- 13 Based on the passage, which of the following **best** describes the user's rights to the game?
- A the user has ownership rights to the game
 - B the user has the right to use the game
 - C the user has the right to sell the game
 - D the user has the right to reprogram the game

DIRECTIONS: Read this poem and then answer questions 14 through 17.

Pencil

by Rob Mack

Have you ever looked at me?
I mean, really looked. Hard.
Studied my every angle, precise point, smooth yellow?
No?

5 I'm not surprised.

Who else can be your tool/weapon but me?
I am the unlikely bridge,
(wooden, with cracks)
that connects you to your writing.

10 To me, creation is no big feat.
I do and undo it all the time,
without the need for faith or hatred.
Do.
Undo.

15 I am the fickle spirit of the written word,
Your two-faced best friend.

Wanna really hurt somebody?
I'm your scapegoat,
ready to slander the innocent.

20 Wanna really inspire somebody?
I'm your apprentice.
Write it down.

I can be your portable righteousness
or your pocket-sized evil.

25 I can create.
I can destroy.

I can't do it without your help.
I am nothing on my own.

No will, no heart, to write.

30 I need your gentle touch,
your guiding caress,
to work my magic.

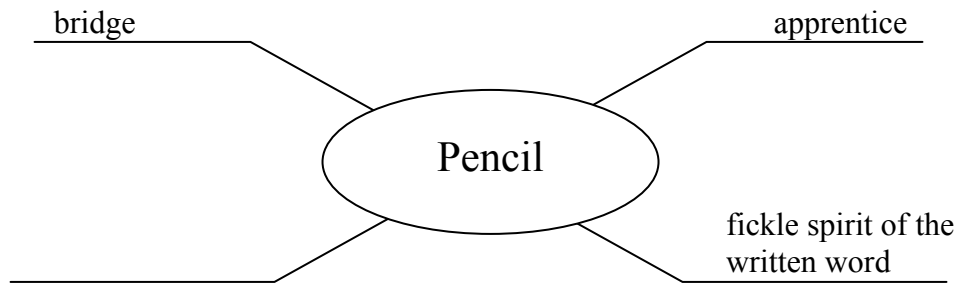
So grasp me, and let's begin ...

AIMS Sample Test - Reading
High School

14 As used in line 18, what is the meaning of scapegoat?

- A one who speaks up against wrong
- B one who uses others for personal gain
- C one who takes the blame for others' mistakes
- D one who assigns tasks for others to complete

15 Look at the web below.



Which of the following **best** completes the web?

- A faith or hatred
- B nothing on my own
- C your pocket-sized evil
- D work my magic

- 16 Read the following stanza from “Pencil.”

**I am the fickle spirit of the written word,
your two-faced best friend.**

What does the author mean by referring to the pencil as “your two-faced best friend”?

- A The pencil needs to write on two sides of a sheet of paper.
 - B The pencil might be smiling today and frowning tomorrow.
 - C The pencil has one end for writing and the other end for erasing.
 - D The pencil can be used to write constructive or destructive things.
- 17 Which of the following phrases in “Pencil” does not contribute to a serious tone?
- A I mean really looked. Hard.
 - B I need your gentle touch,
 - C I can be your portable righteousness
 - D I am nothing on my own.

DIRECTIONS: Read this letter and then answer questions 18 through 22.

1871 W. Marlette Ave.
Phoenix, AZ. 85013
January 26, 2004

Kevin Plant
Regional Manager
X-Ports
1020 Hill Street
Phoenix, AZ 85001

Dear Mr. Plant:

I am an avid camper and longtime X-Ports customer, but after being verbally abused for the third time at your Sierra Vista location, I am writing to complain about your rude employees. They should all be fired!

Several months ago, I bought a tent that leaked the first time I used it and wanted it replaced. When I took it back, your employees accused me of tearing it myself. I left not only with my torn tent, but no refund and no satisfaction.

A couple of weeks ago, I bought a sleeping bag that was supposed to hold two people comfortably. It didn't. Your employees refused to give me my money back even though I had the receipt. I was asked to leave the store, again with no satisfaction.

However, my latest purchase of camping equipment resulted in a substantial revenue for your store. The propane camp stove I purchased didn't work properly. When I returned to exchange it or have it replaced, the rude clerk refused to help me because I did not have my sales receipt. It was an even exchange! He implied that I am a problem and even asked if I had seen what products I could purchase at one of your competitor's stores at comparable prices. Was he accusing me of something? Why would I have brought a receipt for an even exchange? Why would I know the price at other stores?

Furthermore, the clerk called security and had me escorted from your store – without my camp stove! How can I go camping now? The tent leaks, the sleeping bag is just wrong, and I don't have a stove to keep warm! Who is going to reimburse me for my stove? Who is going to help me get over the mortification I suffered in your store?

You, as the regional manager, must clear these matters up for me immediately! I am sending copies of this letter to your corporate office and the Sierra Vista Store.

Sincerely,

Ima Kumpanee

Ima Kumpanee

AIMS Sample Test - Reading
High School

- 18** Which of the following items was NOT purchased by Ima?
- A** sleeping bag
 - B** stove
 - C** flashlight
 - D** tent
- 19** Which form of organization did Ima use in this letter?
- A** cause and effect
 - B** analogy
 - C** chronological
 - D** classification
- 20** What is Ima's proposed solution for the problem with the sleeping bag?
- A** to replace
 - B** to exchange it for another
 - C** to have it repaired
 - D** to get a refund for it

AIMS Sample Test - Reading
High School

- 21 Why does Ima point out that she is “**an avid camper and longtime X-Ports customer**”?
- A to show that she knows more about camping than X-Ports
 - B to suggest she wants to remain an X-Ports customer
 - C to keep the manager from being angry with her
 - D to let the manager know they share an interest in camping
- 22 Which of these sentences uses an emotional appeal?
- A Why would I know the price at other stores?
 - B The propane camp stove I purchased didn’t work properly.
 - C Who is going to help me get over the mortification I suffered in your store?
 - D A couple of weeks ago, I bought a sleeping bag that was supposed to hold two people comfortably.

DIRECTIONS: Read this passage and then answer questions 23 through 27.

San Diego Summer

by Emily Jenkins

The summer after my sophomore year in high school, I finally had the opportunity to live with my super-cool sister in San Diego for three weeks. It was going to be great! I would do nothing but lie on the beach in the sun all day. Perhaps I would surf a little or ride my bike around Coronado Island. Yes, life was going to be amazing for those three weeks. Or so I thought...until I saw the flaws in my plan.

First flaw: I would not have a vehicle of my own while I was there. Not only that, I was strictly forbidden to drive any vehicle owned by my sister or her husband. *But, I thought, that might not be so bad. I could borrow my sister's bike; the beach wasn't that far away.*

Second flaw: I would spend every morning, Monday through Friday, teaching YMCA kids how to play tennis...for FREE. Since college wasn't too far off and since I had practically zero hours of community service, my volunteering at the Y was smart. *It might not be so bad, I thought, since I like tennis and I even kind of like little kids.*

Third flaw: I had a mountainous pile of summer homework that included reading two books, summarizing four chapters of history, and writing two foreign language compositions. That

would surely occupy most of my time in the afternoon after I was done teaching youngsters the wonders of tennis. So, not only would I not be able to transport myself to the beach, I would have absolutely no time in which to go. These three weeks were shaping up to be anything but amazing.

I soon realized that, while I wasn't able to laze away at the beach and soak up the sun, it didn't really matter because the weather in San Diego was absolutely beautiful! I was able to walk outside without frying like a slab of bacon - a common occurrence in the oven that is Phoenix. However, wonderful weather only takes one so far before reality sets in.

On my first day of camp, I was shocked by the smallness of the children. The kids could barely clutch a racket, let alone swing one. This is when it occurred to me how potentially disastrous the situation was. A group of thirty small children with rackets in hand and only four coaches. The odds were definitely against us. Luckily, the kids did not have blood on their minds, and they were *relatively docile* and cooperative.

It soon became painfully obvious that I was the only "coach" actually coaching. Rather

AIMS Sample Test - Reading
High School

ironic when one considers I was the only one of the four NOT being paid for my time. I must admit, however, that despite all of my efforts these children were not retaining much. I had to keep telling myself that while I couldn't enjoy the fruits of my labor at the moment, I would be reveling in the benefits once college application time came. Thus, I soldiered on.

Equally as frustrating was the fact that my mountain of schoolwork didn't really seem to be shrinking very quickly until my last week in San Diego... my last week of summer. I could almost feel the grains of time slipping through

my fingers as the heinous date approached: the first day of school. Frantic, I began to trudge my way through the two books and as the last waning days of summer came and went, I managed to jot down some hastily constructed history notes and even draft two almost coherent French compositions.

As my plane landed at the Phoenix airport one day before the opening of school, I had complete peace of mind. Although I did not spend every day at the beach as I had initially hoped to do, I did accomplish several things...and I felt as if I were a better person because of my three weeks in San Diego.

- 23 The phrase “**Thus, I soldiered on,**” reflects which of the following characteristics about the narrator?
- A her desire to enter the military
 - B her love for teaching tennis
 - C her determination to not give up
 - D her frustration over not going to the beach
- 24 Based on the text, what is the narrator's reaction when she first learns she is going to visit her sister in San Diego?
- A anger
 - B hopeful
 - C disappointment
 - D excitement

AIMS Sample Test - Reading
High School

25 Which of the following clauses suggests that the narrator is feeling desperate?

- A “I had complete peace of mind.”
- B “I could feel the grains of time slipping through my fingers.”
- C “I would be reveling in the benefits once college application time came.”
- D “I wasn’t able to laze away at the beach and soak up the sun.”

26 Read this statement from the passage.

“I was able to walk outside without frying like a slab of bacon...”

What is the effect of the above statement?

- A It adds some humor.
- B It advances conflict.
- C It clarifies the message.
- D It enhances the plot.

27 Read this statement from the passage.

“...and I felt as if I were a better person because of my three weeks in San Diego.”

Based on the statement, what can we predict the author might do in the future?

- A apply to a university
- B move to the beach
- C play tennis professionally
- D perform community service



AIMS Sample Test – Reading Answer Key
High School

Item Number	Correct Answer	Performance Objective
1	C	1-4-1
2	D	3-1-2
3	A	3-1-3
4	D	3-1-7
5	B	3-2-3
6	A	1-4-2
7	D	2-1-1
8	A	2-1-2
9	D	2-1-4
10	A	1-6-3
11	B	3-2-3
12	D	3-2-3
13	B	3-2-3
14	C	1-4-2
15	B	1-6-3
16	D	2-1-2
17	B	2-1-4
18	C	3-1-3
19	C	3-1-6
20	D	3-3-1
21	B	3-3-1
22	C	3-3-2
23	C	1-4-3
24	D	2-1-1
25	B	2-1-2
26	A	2-1-4
27	D	3-1-8

WRITING

AIMS Sample Test – Writing
High School

Writing _____

DIRECTIONS:

Read the writing prompt below. Use the next page for your prewriting/planning. Then write your draft.

Adults have influence on young people's lives. Think about the qualities demonstrated by adults that you admire.

Write an essay explaining the most important qualities demonstrated by adults that you admire.

Your essay should include:

- An introduction, body, and conclusion.
- An explanation of the qualities.
- Specific, appropriate details.

Remember to edit for spelling, grammar, punctuation, and capitalization.

DIRECTIONS:

Use the prewriting/planning space below for notes, lists, webs, outlines, or anything else that might help you plan your writing.

Prewriting/Planning

Writing _____

Draft

[illegible]

[illegible]

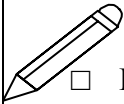
AIMS Sample Test – Writing
High School

Writing _____

FINAL COPY

DIRECTIONS:

Now you are going to revise your draft. Read your draft. Then use the questions in the Writer's Checklist as a guide to make changes to your draft. Check each box if you can answer "yes" to that question.



WRITER'S CHECKLIST

- ☐ Does my paper have a specific audience and a specific purpose?
- ☐ Does my paper contain a strong controlling idea?
- ☐ Does my paper stay on topic?
- ☐ Does my paper include specific and relevant details, reasons, and examples?
- ☐ Does my paper have an effective beginning, middle, and end?
- ☐ Does my paper progress in a logical order, and do my ideas flow smoothly?
- ☐ Does my paper contain words that make it interesting?
- ☐ Does my paper contain sentences that are clear and varied in structure?
- ☐ Does my paper include effective use of paragraphing?
- ☐ Does my paper include correct grammar/usage, punctuation, capitalization, and spelling?

DIRECTIONS:

For each box you did not check, make the change on your draft. Then write your final copy on the following pages.

Writing _____

DIRECTIONS:

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

FINAL COPY[illegible]

MATHEMATICS

Revised 9-2-05

AIMS Reference Sheet

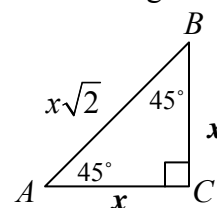
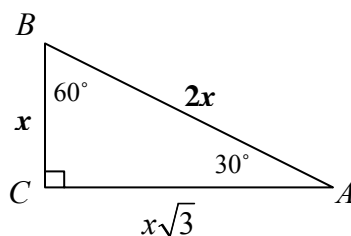
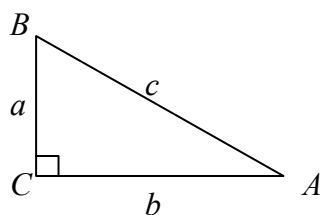
Sum of the measures of the interior angles of a convex polygon with n -sides: $S = (n - 2)(180^\circ)$	Distance, rate, time formula, where d = distance, r = rate, t = time: $d = rt$
Permutations of n objects taken r at a time: ${}_nP_r = \frac{n!}{(n-r)!}$	Combinations of n objects taken r at a time: ${}_nC_r = \frac{n!}{(n-r)!r!}$

Special Right Triangle Relationships

Trigonometric Ratios

30°-60°-90° Triangle Relationships

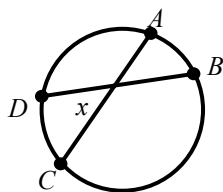
45°-45°-90° Triangle Relationships



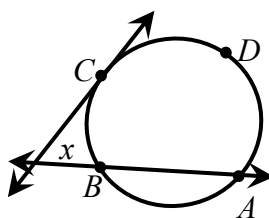
$$\sin A = \frac{a}{c} \quad \cos A = \frac{b}{c} \quad \tan A = \frac{a}{b}$$

Additional Formulas

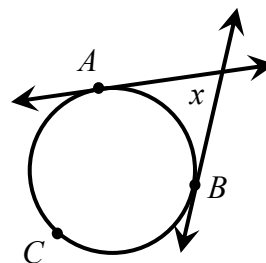
Area of a sector: $A = \pi r^2 \frac{\text{degrees in corresponding arc}}{360^\circ}$	Length of a circular arc: $\text{Length of } \widehat{AB} = 2\pi r \frac{m\widehat{AB}}{360^\circ}$
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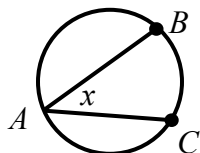
$$m\angle x = \frac{1}{2}(m\widehat{AB} + m\widehat{CD})$$



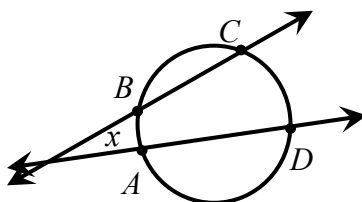
$$m\angle x = \frac{1}{2}(m\widehat{ADC} - m\widehat{BC})$$



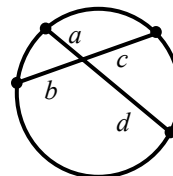
$$m\angle x = \frac{1}{2}(m\widehat{ACB} - m\widehat{AB})$$



$$m\angle x = \frac{1}{2}m\widehat{BC}$$



$$m\angle x = \frac{1}{2}(m\widehat{CD} - m\widehat{AB})$$



$$\frac{a}{b} = \frac{c}{d}$$

Mathematics

DIRECTIONS: Read each question and choose the best answer.

- 1 The Math Club purchased 150 calendars for \$2.00 each. If the club sells the calendars for \$5.00 each, what will be the total profit if all the calendars are sold?

A \$750.00
B \$450.00
C \$300.00
D \$3.00

- 2 Evaluate $x + 4y$, when $x = 4$ and $y = -5$

A 24
B 11
C -16
D -80

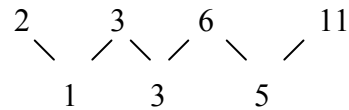
- 3 Which of the following is always true?

A A parallelogram is a kite.
B A quadrilateral is a trapezoid.
C A rectangle is a square.
D A square is a rhombus.

- 4 John wrote the number pattern shown below.

2, 3, 6, 11, ...

He noticed another pattern when he formed the difference between consecutive numbers increased by 2 as shown below.



If the difference continues to increase by 2, what will be the 6th and 7th terms of the original pattern?

A 27, 38
B 27, 36
C 18, 27
D 18, 25

5 Which of the following statements is true?

- A A scalene triangle has no congruent sides.
- B A scalene triangle has exactly two congruent sides.
- C An equilateral triangle has exactly two congruent sides.
- D An isosceles triangle is also an equilateral triangle.

6 What is the value of the expression below?

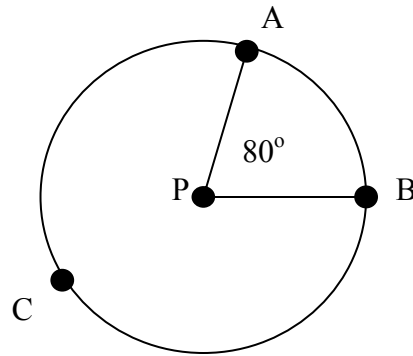
$$14 - 4[2 + 3(8 - 5)]$$

- A 150
- B 69
- C -30
- D -46

7 Which pair of equations shares a solution?

- A $5x + 2 = 32$
 $2x + 3 = 8 + x$
- B $5x + 2 = 32$
 $-3x + 4 = -2(x - 5)$
- C $5x + 2 = 32$
 $x + 2(x - 4) = 34 - 3x$
- D $5x + 2 = 32$
 $4x + 9 = 5(14 - x) - 7$

8 Points A, B, and C are on circle P.



What is the $m\widehat{ACB}$?

- A 280°
- B 220°
- C 160°
- D 80°

9 If a polygon is translated, which of the following characteristics of the polygon are the same?

- I. Side lengths
- II. Area
- III. The coordinates of the vertices.

- A I, II, III
- B II and III
- C I and III
- D I and II

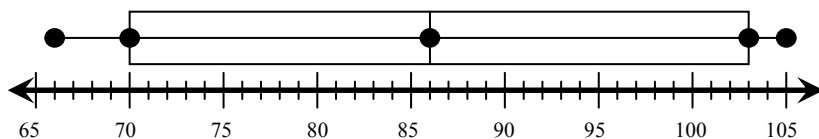
AIMS Sample Test – Mathematics
High School

- 10 The following is an ordered list of monthly normal high temperatures for Phoenix, AZ.

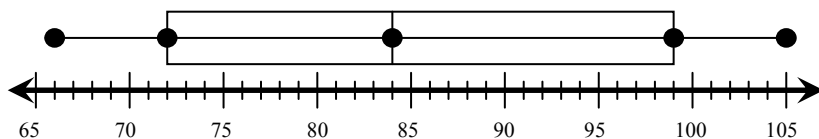
66, 66, 70, 74, 75, 84, 88, 93, 99, 103, 103, 105

Which box-and-whisker plot best displays the data?

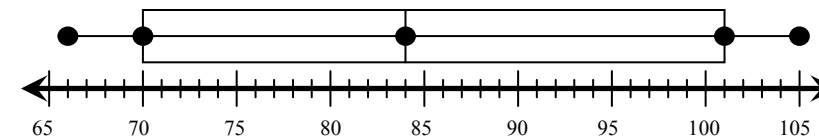
A



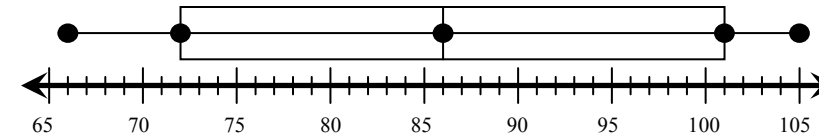
B



C

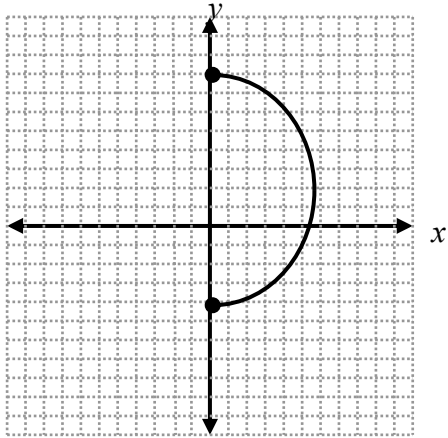


D

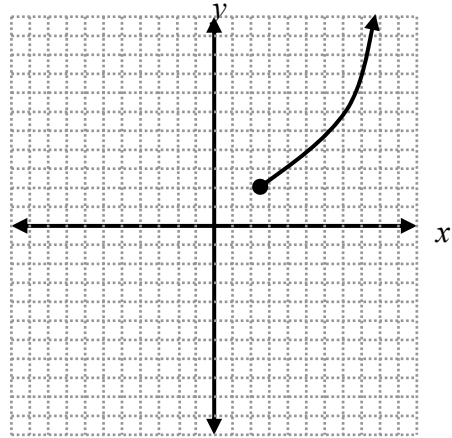


11 Which of the following is **not** a function of x ?

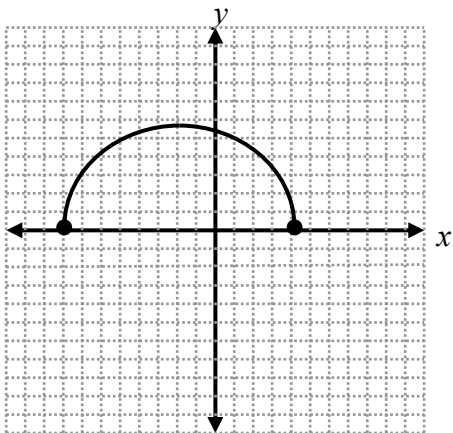
A



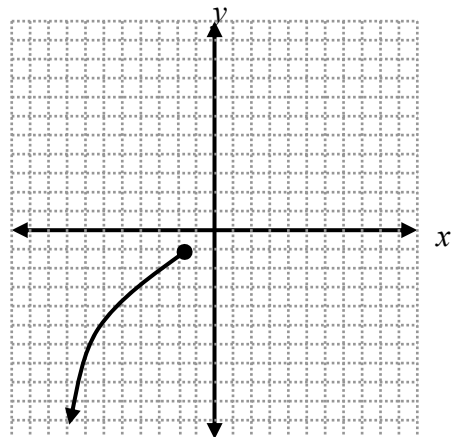
C



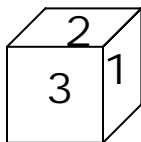
B



D



- 12** A cube numbered 1 through 6 is shown below.



When the cube is tossed once, what is the probability that a number less than 4 shows on the top face of the cube?

- A** 1
- B** $\frac{2}{3}$
- C** $\frac{1}{2}$
- D** $\frac{1}{3}$
- 13** A cellular phone company offers a 200-minute plan for \$29.95 per month, a 300-minute plan for \$39.95 per month, a 400-minute plan for \$49.95 per month, and so on.

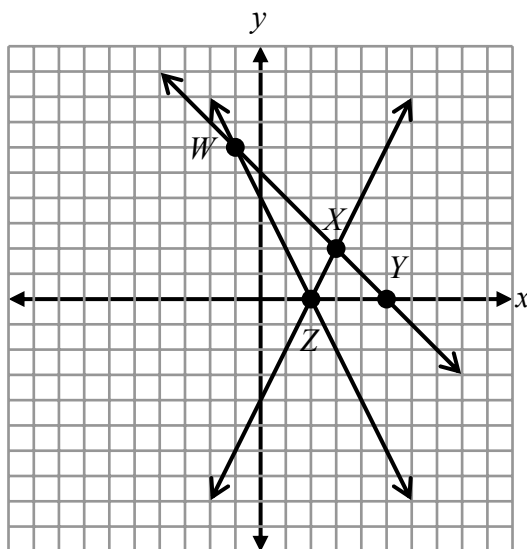
Based on this information, which of the following conjectures is reasonable?

- A** A 100-minute plan costs \$9.95 per month.
- B** A 100-minute plan costs \$14.95 per month.
- C** A 500-minute costs \$69.90 per month.
- D** A 600-minute plan costs \$69.95 per month.

- 14** Solve the system of equations below.

$$\begin{aligned} x + y &= 5 \\ -4x - 2y &= -8 \end{aligned}$$

Which point on the graph below is the solution to the system of linear equations?



- A** *W*
- B** *X*
- C** *Y*
- D** *Z*

- 15** Speedy Rentals will rent a jet ski for \$15.00 plus \$3.00 per hour.

Which equation expresses C , the cost of renting a jet ski and riding it for h hours?

- A** $C = 15h + 3$
- B** $C = 15 + 3h$
- C** $C = 3(15 + h)$
- D** $C = 15(h + 3)$

- 16** The n^{th} term of the linear pattern defined by the table is given by which expression?

2	4	6	8	n
4	8	12	16	?

- A** $2n$
 - B** $n + 2$
 - C** $n + 4$
 - D** n^2
- 17** What is the solution to the inequality below?

$$12x > 5(x - 2)$$

- A** $x > -\frac{2}{7}$
- B** $x < -\frac{2}{7}$
- C** $x > -\frac{10}{7}$
- D** $x < -\frac{10}{7}$

- 18** The chart below shows 10 states and the average length of patient stay in days in each of their hospitals.

STATE	No. of Hospitals	Average Length of Stay
AL	119	7.0
AK	16	5.7
AZ	61	5.5
AR	88	7.0
CA	440	6.0
CO	71	6.8
CT	35	7.4
DE	8	6.8
FL	227	7.0
GA	162	7.2

Based on the information in the chart, which of the following statements is true?

- A** Five of the states had an average length of stay of at least 7 days.
 - B** Five of the states had an average length of stay of less than 6 days.
 - C** The state with the fewest hospitals had the shortest average length of stay.
 - D** The state with the most hospitals had the largest average length of stay.
- 19** Which addition property is illustrated by the following statement?

$$0 + 3 = 3$$

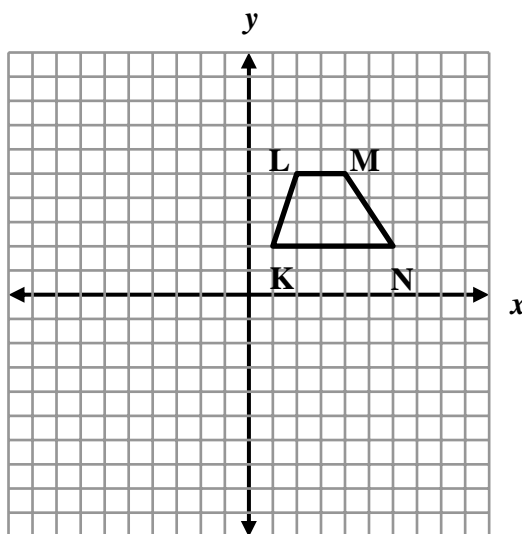
- A** Inverse
- B** Identity
- C** Distributive
- D** Commutative

- 20** Which of the following values of x makes the proportion below true?

$$\frac{7}{4} = \frac{x-3}{x+3}$$

- A** -11
B -2
C 2
D 11
- 21** Which of the following is an example of dependent events?
- A** flipping a fair coin twice and getting tails both times
B choosing the starting player line-up for a basketball game
C choosing two cards from a stack of colored cards, with replacement, and both cards are blue
D rolling a 6-sided die 2 times and getting a 5 both times

- 22** If trapezoid KLMN shown below is reflected across the x -axis to form trapezoid $K'L'M'N'$, what are apparent coordinates of M' ?



- A** $(-4, 5)$
B $(-4, -5)$
C $(4, -5)$
D $(4, 5)$
- 23** Simplify: $2y(3x + 5y - 4)$
- A** $5xy + 10y - 8y$
B $5xy + 10y^2 + 8y$
C $6xy + 10y + 8y$
D $6xy + 10y^2 - 8y$

- 24** A family of five went out to dinner. Their bill, including tax, was \$70.00. They left a 15% tip on the total cost of their bill.

Which amount is closest to the total cost of the dinner, including tip?

- A** \$90.00
- B** \$80.00
- C** \$75.00
- D** \$11.00

- 25** Which of the following represents a correct procedure for solving each given equation?

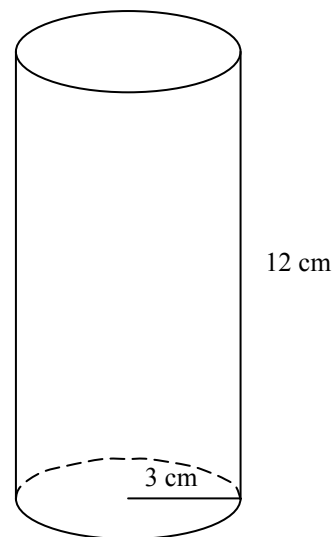
A $-2(x-5) = -12$
 $-2x - 10 = -12$
 $-2x = -2$
 $x = 1$

B $8(x-5) = 24$
 $8x - 40 = 24$
 $8x = -16$
 $x = -2$

C $5 - 2x = 8x + 25$
 $5 = -10x + 25$
 $30 = 10x$
 $3 = x$

D $7x - 12 = -2x + 15$
 $9x - 12 = 15$
 $9x = 27$
 $x = 3$

- 26** The right circular cylinder represented below has a base radius of 3 centimeters and a height of 12 centimeters.



What is the volume of the right circular cylinder in cubic centimeters?

- A** $36\pi \text{ cm}^3$
- B** $72\pi \text{ cm}^3$
- C** $108\pi \text{ cm}^3$
- D** $432\pi \text{ cm}^3$

- 27** Paul's first project scores for art were:

96, 87, 84, 96, 100

Which statement is true about the project scores?

- A** The mode is the same as the median.
- B** The median is the same as the mean.
- C** The range is the same as the mode.
- D** The mode is the same as the mean.

- 28** Which of these is equivalent to the equation below?

$$y = mx + b$$

- A** $b = \frac{mx}{y}$
- B** $x = y - bm$
- C** $b = y - mx$
- D** $x = \frac{y}{mb}$

- 29** The statements below are out of order.

1. If a figure is a square, then it is a rhombus.
2. If a figure is a parallelogram, then it is a quadrilateral.
3. If a figure is a quadrilateral, then it is a polygon.
4. If a figure is a rhombus, then it is a parallelogram.

Which of the following lists the statements in the correct logical order?

- A** 2, 4, 3, 1
- B** 1, 4, 2, 3
- C** 3, 2, 1, 4
- D** 4, 2, 3, 1

- 30** The percent scores for 5 tests are listed below.

45 62 76 78 99

Which statement about the data is most reasonable?

- A** the mean is close to 50
- B** the mean is close to 54
- C** the mean is close to 70
- D** the mean is close to 80

- 31** The algorithm below is a step-by-step geometric procedure.
- I. Add the 1st x -coordinate value to the 2nd x -coordinate value and divide by two.
 - II. Add the 1st y -coordinate value to the 2nd y -coordinate value and divide by two.
 - III. Write your answers from step I and step II as an ordered pair.

Which of the following does the algorithm best represent?

- A** Calculating the slope of a line.
 - B** Calculating the y -intercept of a graph.
 - C** Calculating the length of a line segment.
 - D** Calculating the midpoint of a line segment.
- 32** Mrs. Brown wants to decorate her kitchen for the holidays. The kitchen is rectangular with a width of 10 feet and a length of 16 feet.

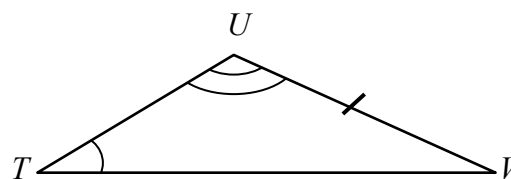
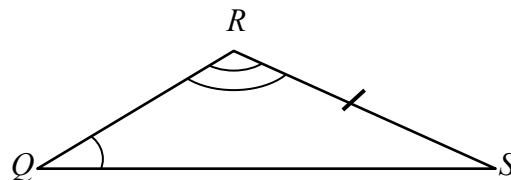
If she creates a scale drawing with a length of 4 inches, what should be the width?

- A** $2\frac{1}{2}$ inches
- B** 4 inches
- C** $6\frac{1}{2}$ inches
- D** 10 inches

- 33** Which of the following sets of numbers represents an infinite set?

- A** {Natural numbers between 0 and 10}
- B** $\left\{\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}\right\}$
- C** {Whole numbers}
- D** {10, 9, 8}

- 34** Which theorem of congruence should be used to prove $\triangle QRS \cong \triangle TUV$?



- A** Angle-Side-Angle (ASA)
- B** Angle-Angle-Side (AAS)
- C** Side-Angle-Side (SAS)
- D** Side-Side-Side (SSS)

AIMS Sample Test – Mathematics
High School

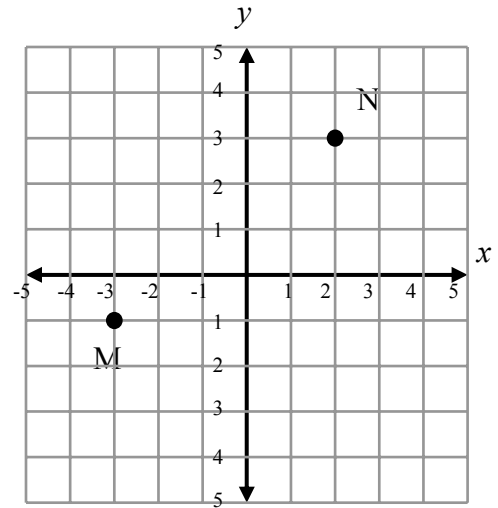
- 35** A student is required to read four different books this semester. In how many different orders can the 4 books be read?

A 4
B 12
C 16
D 24

- 36** What is the y-intercept for the graph of the equation $3x - 5y = 15$?

A -5
B -3
C 3
D 5

- 37** What is the distance between points M $(-3, -1)$ and N $(2, 3)$ on the graph below?

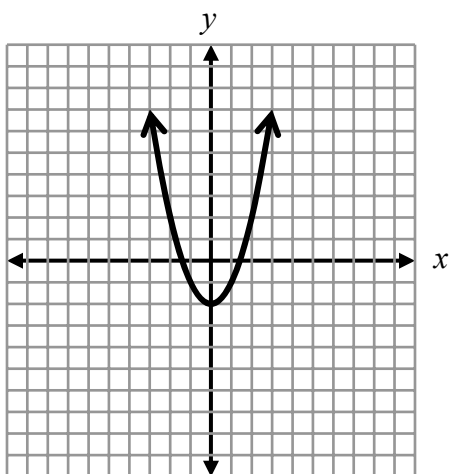


A $\sqrt{5}$
B $\sqrt{17}$
C $\sqrt{41}$
D $\sqrt{45}$

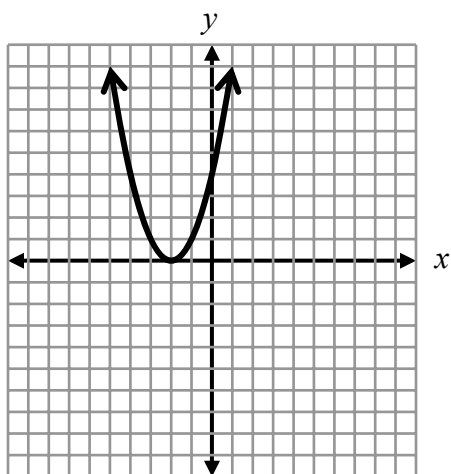
- 38 Which of the following represents the graph of the equation below?

$$y = -x^2 + 2$$

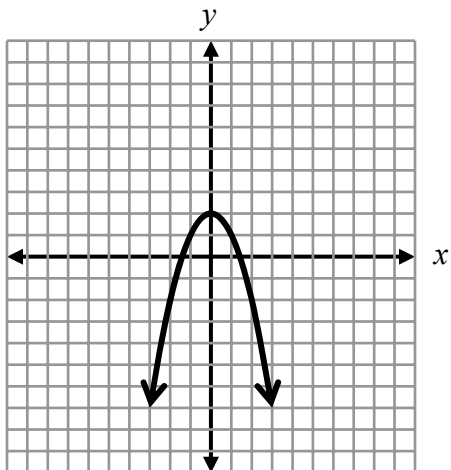
A



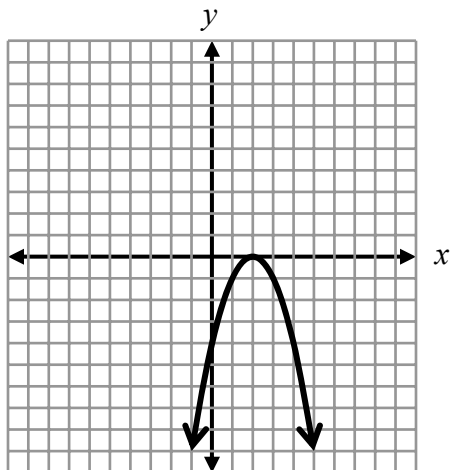
C



B



D



AIMS Sample Test – Mathematics
High School

- 39** The points scored by a school football team this season are:

6, 7, 11, 12, 22, 28, 28, 30, 33, 35

Which of the following stem-and-leaf plots correctly displays the data?

A

Stem	Leaf
0	6, 7
1	1, 2
2	2, 8, 8
3	0, 3, 5

1	1	means 11
---	---	----------

C

Stem	Leaf
0	3
1	1
2	1, 2
3	3
5	3
7	0
8	2, 2

1	1	means 11
---	---	----------

B

Stem	Leaf
0	6, 7
1	1, 2
2	2, 8
3	0, 3, 5

1	1	means 11
---	---	----------

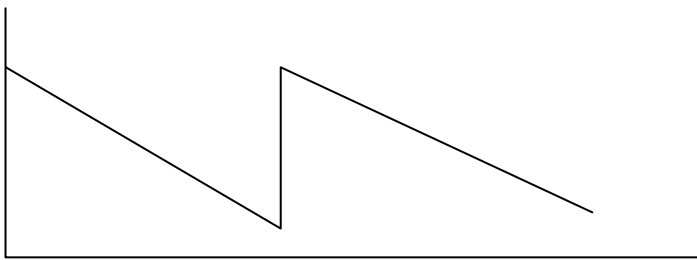
D

Stem	Leaf
0	3
1	1
2	1, 2
3	3
4	
5	3
6	
7	
8	2, 2

1	1	means 11
---	---	----------

AIMS Sample Test – Mathematics
High School

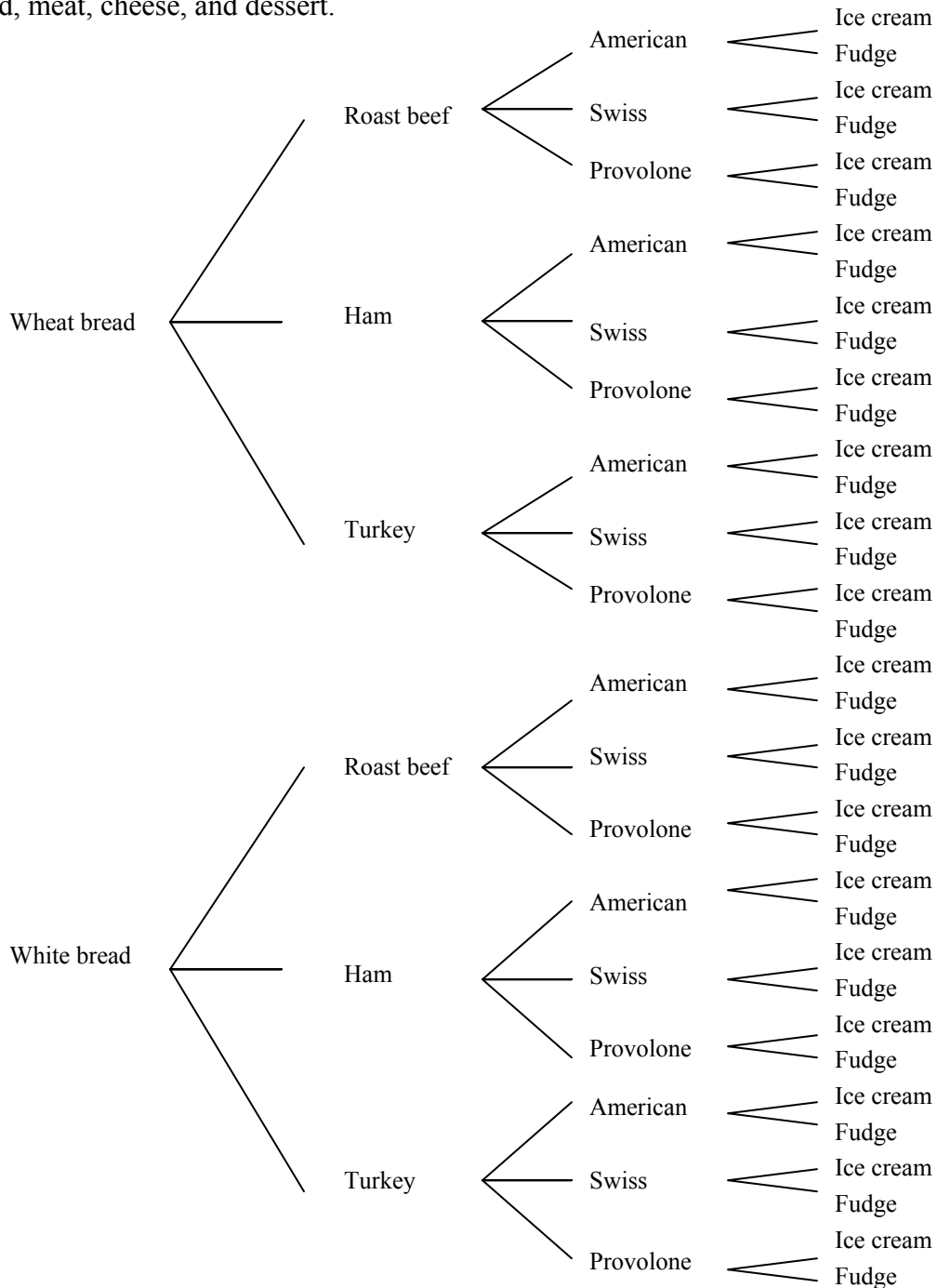
- 40** Which of the following real-world situations could best be modeled by the following graph?



- A** The height of a person growing from child to adult.
- B** The temperature of a cake after it is taken out of the oven.
- C** The height of an airplane landing on a runway.
- D** The amount of gasoline in a car gas tank during a long trip.

AIMS Sample Test – Mathematics
High School

- 41 A catering business provides lunches for a company picnic. The package has options for bread, meat, cheese, and dessert.

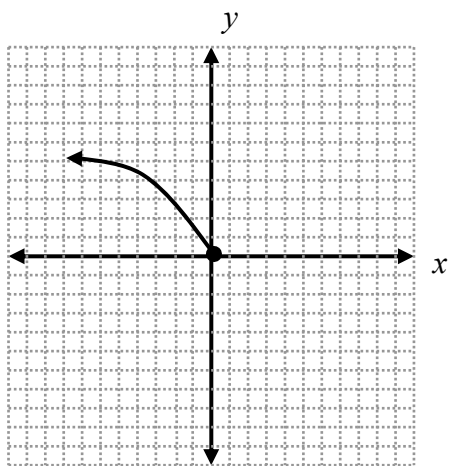


Based on the diagram above, how many combinations of one bread, one meat, one cheese, and one dessert are possible?

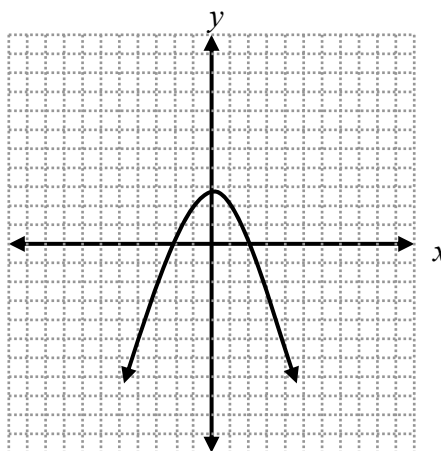
- A 4
- B 10
- C 36
- D 65

- 42 Which of the following functions of x has the apparent range of $\{y : y \leq 0\}$?

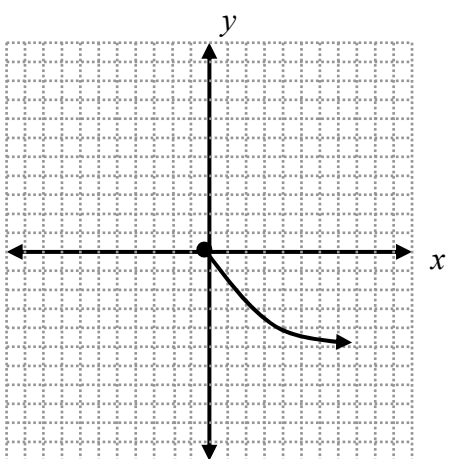
A



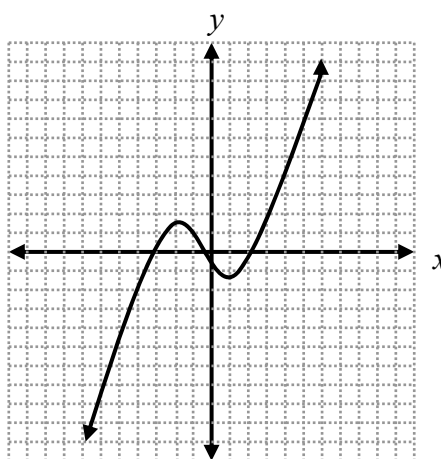
C



B

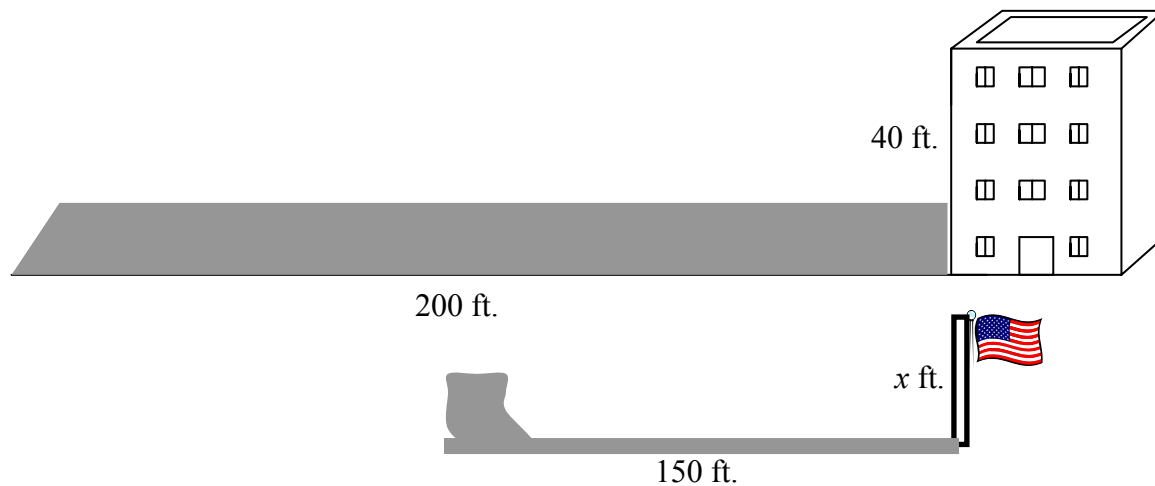


D



AIMS Sample Test – Mathematics
High School

- 43 The diagram below shows a building, a nearby flagpole, and their shadows.



Based on the information in the diagram, what is the height of the flagpole, x ?

- A 750 ft.
- B 50 ft.
- C 30 ft.
- D 10 ft.

AIMS Sample Test – Mathematics Answer Key
High School

Item Number	Correct Answer	Performance Objective
1	B	1.2.2
2	C	3.3.1
3	D	4.1.2
4	A	3.1.2
5	A	4.1.1
6	C	1.2.7
7	D	3.3.8
8	A	4.1.7
9	D	4.2.6
10	D	2.1.3
11	A	3.2.1
12	C	2.2.3
13	D	5.2.5
14	A	4.3.4
15	B	3.3.5
16	A	3.1.2
17	C	3.3.9
18	A	2.1.9
19	B	1.1.2
20	A	3.3.11
21	B	2.2.6
22	C	4.2.3
23	D	3.3.2
24	B	1.3.1
25	D	5.1.2
26	C	4.4.2
27	A	2.1.10
28	C	3.4.2
29	B	5.2.2
30	C	1.3.2
31	D	5.1.5
32	A	4.4.9
33	C	1.1.3
34	B	4.1.11
35	D	2.3.3
36	B	3.4.1
37	C	4.3.7
38	B	4.3.1
39	A	2.1.3
40	D	3.2.2
41	C	2.3.1
42	B	3.2.5
43	C	4.4.10